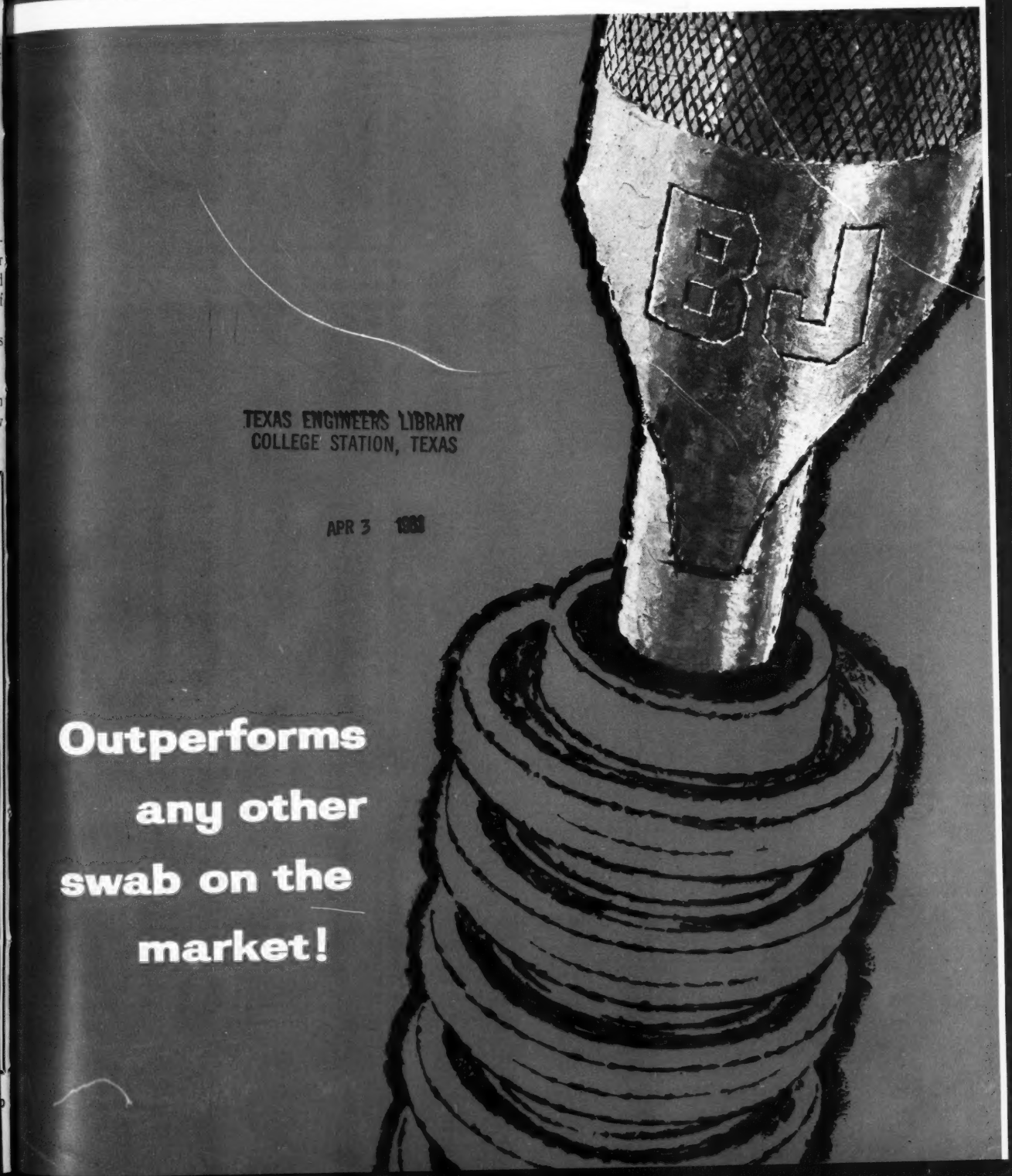
CALIFORNIA

OIL WORLD

Alaska · Arizona · California · Montana · New Mexico
Nevada · Oregon · Utah · Western Canada

ICE MONTHLY • FIRST ISSUE • Year Vol. 54 No. 5

Texas Engrg Library
Acct: Librarian 122250
College Station, Texas



TEXAS ENGINEERS LIBRARY
COLLEGE STATION, TEXAS

APR 3 1961

Outperforms any other swab on the market!

Now CRANE... Industrial Products at

BRASS, IRON, STEEL AND ALLOY VALVES

You'll find large stocks of a wide variety of Crane Brass, Iron, Steel and Alloy Valves at all of the nine Keenan plants and warehouses in California, Arizona, Nevada and Colorado. Crane Fabricated Piping is also available for job site delivery. Whatever you need, you'll get it fast from Keenan. Call today.

BAKERSFIELD
633 Williams St.

SAN BERNARDINO
777 West Mill St.

NORTH HOLLYWOOD
11211 Chandler Blvd.

SAN DIEGO
2275 Main St.

KEENAN
PIPE & SUPPLY CO.

LOS ANGELES
2112 East 27th St.

DENVER
4700 Dahlia St.

PHOENIX
214 South 14th St.

TUCSON
First and Broadway

LAS VEGAS
831 West Bonanza Road

CALIFORNIA
OIL WORLD

PUBLISHED TWICE A MONTH
By
PETROLEUM PUBLISHERS, INC.

KINZIE MILLER—President and Editor • RICHARD SNEDDON—Contributing Editor
LELA MONROE—Vice President • LARRY O. MILLER—Secretary and Advertising Manager
2404 WEST 7th STREET, LOS ANGELES 57, CALIFORNIA • DUnkirk 2-6218
BRANCH OFFICES
CHICAGO—FRED JONES & SON—Room 517, 205 W. Wacker Drive, Chicago 6
CLEVELAND—HOWARD F. McCLENAHAN—1900 Euclid Ave., Cleveland 15
NEW YORK—JAY TUTHILL—501 FIFTH AVENUE, NEW YORK 17
WASHINGTON, D.C. CORRESPONDENT—LORANIA K. FRANCIS

AUDITED PAID CIRCULATION ABC

• FIRST ISSUE
MARCH, 1961
VOL. 54 • NO. 5
WHOLE NO. 2059
March 15, 1961

California Oil World is published twice a month at 2404 West 7th St., Los Angeles 57, California. Second-Class Postage Paid at Los Angeles, California. Subscription price $1 per year in U. S. and possessions, $2 in foreign countries including Canada.

Unitizing and Water-Flooding Show Excellent Results at Wilmington

The first tidelands in the history of California to become part of a unitized water-flooding program took place February 28 when Charles L. Vickers, general manager of the Long Beach Harbor Department, signed documents committing city-controlled tideland oil property to units already formed by major private operators.

The units are in Fault Blocks II and III of the producing areas of the Wilmington Oil Field—essentially in the area of the Long Beach Naval Shipyard.

This water-flooding program is designed to control subsidence primarily in the vicinity of the naval shipyard, and to increase oil recovery.

Repressuring operations in the past have been conducted under co-operative water-injection agreements between Long Beach city—on its tidelands, and units formed by private upland operators.

As a result, land sinkage has been controlled in the City of Long Beach, the harbor waterfront and about 85 per cent of the naval shipyard.

City participation in Fault Blocks II and III units was delayed almost a year pending legal clarification, but the California Supreme Court upheld in January of this year the constitutionality of merging public trust lands with private holdings in a single unit.

Now with the unitization of Fault Blocks II and III, as well as the future unitization of Fault Block IV, last year's injection rate of salt water at 400,000 barrels a day will be increased greatly.

In all, over the past 30 months more than 300 million barrels of water have been injected into the field, cutting the sinking rate to less than .5 foot per year from the high in 1951 of 2.4 feet per year.

Late last year, engineers estimated that 9,500 barrels of the 35,400-barrel daily oil production by tidelands wells could be attributed to the water-flooding program. They also estimated that the program had already resulted in recovery of 7.5 million barrels of oil which would not have been produced under primary recovery methods.

Companies working jointly in the unitization of Fault Blocks II and III with the City of Long Beach include: Union Pacific Railroad Co., Los Angeles and Salt Lake Railroad Co., Southern California Edison Co., Socony Mobil Co., Inc., City of Los Angeles, General Petroleum Corp., and Ford Motor Company.

Long Beach city attorney, Gerald Desmond, looks on as Charles Vickers, general manager of the Port of Long Beach, signs unitization agreements for Fault Blocks II and III.

Alvin C. Hope Speaks Out on Fuel Uses

The president of the Independent Petroleum Association of America expressed confidence that "any energy study by the United States Congress will confirm our historic national policy of free choice of fuels by consumers."

Alvin C. Hope, San Antonio, Tex., said "the historic record of the Congress in maintaining sound energy policies is reassuring that so-called 'end-use' control of fuels will not result from any enlightened congressional hearings."

Speaking at a district meeting of IPAA in Abilene, Texas, Feb. 28, the San Antonio oilman said prospects that a study of the nation's energy resources may be conducted by a select House committee "present no threat to the petroleum industry," and "to the contrary, should be viewed as an opportunity to reconfirm the need for consistent and essential petroleum policies."

The IPAA president said his organization had worked to eliminate from so-called "fuels study" proposals in the Congress "language which tended to 'direct' certain conclusions not in accord with the public or the national interest."

Hope said a resolution to create a "select committee on a national fuels policy," cleared for House floor action by the Rules Committee on February 23, "contains no language which could be construed as a threat to sound oil, gas or energy policies.

"In any fuels study which might be conducted," he added, "the IPAA will work to see that those responsible for such study will have the benefit of facts upon which to base judgments directed at maintaining adequate oil and gas resources to meet the nation's expanding energy needs.

"The petroleum industry," said Hope, "has nothing to fear from an enlightened study of the fuels industries. To the contrary, it could benefit. Over the years a framework of sound national policies has been developed by Congress. Many of these policies have been clouded by court decisions and by misinformation.

"Congressional policies affecting natural gas production have been overturned by the Supreme Court. Other vital policies, such as oil import controls and mineral depletion provisions, are under question. The petroleum industry cannot live under a cloud of change or threatened change of these essential policies. It should welcome any opportunity to present the facts and to clear the air on these issues.

"I know of no instance where Congress, given the benefit of the facts, has acted unwisely with respect to petroleum or energy policies. There is nothing which justifies any fear that it will do so now."

Government Control Of Natural Gas A Serious Problem

The more than 2,300 natural gas producers' rate cases pending before the Federal Power Commission reflect the tremendous administrative problems posed by Federal regulation of gas field prices, a natural gas industry official pointed out last month.

Charles E. Webber, president of the Natural Gasoline Association of America and director of Sun Oil Company's Natural Gas Administration, keynoted the first regional meeting of NGAA's new Southwest Louisiana Region at Lafayette, La. Summarizing administrative problems facing his industry, Mr. Webber had this to say about application of Federal utility controls to natural gas production:

"In spite of the confusion compounded by numerous astounding court decisions, Congress gives no indication that remedial legislation will come along in the near future. Indeed, the petroleum industry may find itself in the incredible position of fighting to maintain the Natural Gas Act as it stands today, rather than be subjected to more severe regulation by amendments to the Act which could put the entire petroleum industry in a strait jacket.

"This would be a strange predicament after our years of working to have the Act amended to free natural gas producers from its control," he added.

In addition to problems related to producers' rate regulation, Mr. Webber spoke of other major administrative problems harassing the petroleum and natural gas industries in connection with imports, gasoline taxes, proposed tax increases on gas gathering, and increasing attacks on statutory percentage depletion.

SIGNAL MEN TO EUROPE—Pictured from l. to r. are Lloyd Aubert, Vice President, Signal Oil & Gas Company; Frank Lortscher, Director of Crude Oil; and Harold Clary, Director of the Legal Department. All three gentlemen were photographed recently at Los Angeles International Airport just before boarding their SAS DC-8C polar jet to Europe.

Ted Bates & Co. Now Adv. Agency of Mobil Oil Co.

Ted Bates and Company, Inc., New York, has been named as the new advertising agency for Mobil Oil Company for both consumer and industrial products.

The Bates Agency replaced Compton Advertising, Inc., effective March 1, but Compton will continue to handle billings until July 1.

Mobil Oil Company is the operating division of Socony Mobil Oil Company, Inc., in the United States and Canada. The company, which is engaged in all phases of the oil industry, markets petroleum products under the Mobil brand in 45 states. Annual sales of Mobil Oil Company are in excess of $1.6 billion.

Mobil spends about $12 million in advertising each year, chiefly in support of automotive gasoline.

The company is also an important industrial advertiser. It sells more than $300 million worth of products each year to the industrial market.

J. D. Elgin is advertising manager of Mobil Oil Company.

Advertising of Mobil International Oil Company, the affiliates of which operate in 80 countries in Europe, Africa, Latin America and the Middle East will continue to be handled by J. Walter Thompson Company.

Nordon Corp., Ltd., Gets Loan, Launches Drilling Program On Helm Oil Field

Nordon Corp., Ltd., has launched its 1961 ten-well drilling program by spudding in Noble 4-9 on the Helm Oil Field in Fresno County, Calif., and is currently drilling away, it was announced by Harry C. Long, president. Objective is the productive Miocene sands at approximately 7,000 feet.

The new well is located on Section 9, Township 17 South, Range 18 East, about 1,000 feet east of Nordon's Noble 1-9 well and 660 feet southeast of the Socony-Mobil 45-9 well, both producers. Financing of this drilling program was handled by the United California Bank.

Nordon acquired the property, formerly held by Socony-Mobil on a 20-year lease, last Fall and immediately drilled three oil wells. They are currently flowing at an average rate of 525 barrels of 35 plus gravity oil per day commercially, and have produced approximately $110,000 worth of crude since their inception.

Long also announced that Nordon has now paid off all unsecured creditors to the total amount of $178,838 in consummating the company's recent acquisition of the Cleveland Petroleum Co. and Barratt & Bysshe. In the transaction, Nordon took over more than 60 producing oil wells plus accumulated developed and undeveloped properties in four California counties. These wells are producing an average of approximately $30,000 worth of oil a month.

The acquisition of these two companies by Nordon is now complete, Long said.

Reserve Oil's Liberty Island Gas Field Important Discovery

A second gas completion at the Liberty Island gas field in Solano County was announced this month by Reserve Oil and Gas Company. The well, Liberty Farms-Reynolds No. 3, tested at a rate of 7,230,000 cubic feet of gas per day through a 7/16th-inch bean. The field was discovered in December, 1960, and the first well, Liberty Farms-Reynolds No. 2, tested in excess of 4,000,000 cubic feet of gas per day. The two wells are currently shut in, awaiting completion of connection to a nearby pipeline.

Further development of the field will be undertaken in the near future, Reserve stated.

R. A. Kent

At its North Tejon Field in Kern County, Reserve, after contending with difficult hole conditions and a fishing job, is drilling ahead from 10,245 feet in Well No. 318-18. This well is scheduled to test the productive Vedder Sands. One mile east of this field, an exploratory well, No. 312-22, drilled by Reserve and associates, is testing the basal portion of the Vedder Z-1 Sands. Encouraging oil shows from this well have not yielded productive tests to date. The well is scheduled to drill to about 13,000 feet and test the deeper Z-5 Sand.

In the Windgap area, one mile south of the North Tejon Field, Reserve is planning a follow-up well to its recent 300-barrel-per-day oil completion of Well No. 86-30. This is a joint venture with Sunray-Midcontinent Oil Company and the Tejon Ranch Company.

WOGA and API In New Quarters

WOGA's offices have been moved from Suite 303 to Suite 910 of the National Oil Building, 609 South Grand Avenue, Los Angeles 17. The telephone number remains the same, MAdison 4-6386.

The Los Angeles office of the American Petroleum Institute is also located in Suite 910 and its telephone number remains MAdison 4-3611.

Baker Oil Tools, Inc., Initiates New Services

To better serve the increasing complexity of its customers' needs, Baker Oil Tools, Inc., is initiating a program whereby trained design engineers will be permanently assigned to most of its districts throughout the United States and to many foreign areas.

The first of these positions was filled on March 1 when R. A. (Bob) Kent was transferred to Baker's West Texas District headquarters in Odessa. Kent's responsibilities under district manager J. T. Mitchell are to supply Baker customers with technical advice on new products, performance data on existing products, information on complex technical hookups and assistance on any jobs where difficulties are encountered.

Kent is a mechanical engineering graduate of Oregon State College, and his background includes over five years as an exploitation and mechanical engineer with the Shell Oil Company in California, where he specialized in reservoir and production engineering and lease development. Early in 1955 he came to work at Baker as a design engineer and has since advanced to the position of senior staff engineer. In the last five years he has gained valuable experience in the design and testing of subsurface equipment and is thoroughly familiar with all the technical details of the operation, performance and maintenance of Baker products.

Kent has attained industry-wide recognition as the author of such papers as "A Status Report on Multiple Completions in California," which was presented at the Los Angeles meeting of the American Petroleum Institute in May, 1960, and "How and Why Tubing Anchors Reduce Operating Costs of Rod Pumped Wells," which was presented at the West Texas Oil Lifting Short Course at Texas Technological College in 1958.

Dresser, Reed Negotiations Terminated

Negotiations leading to the purchase by Dresser Industries, Inc., of Reed Roller Bit Co. have been terminated, according to a statement issued by H. N. Mallon, chairman of Dresser, and Ray O. Shaffer, chairman of Reed.

Petroleum LORE and LINGO

By RICHARD SNEDDON

The Mapping Instinct

There are few people who are not in modest way cartographers or map makers. Here is an ancient practice arising from the simple fact that under certain circumstances at least pictures speak more eloquently than words. When one of our stone-age forbears asked another the way to the nearest flint shop, the latter no doubt dropped to his haunches and with a pointed stick outlined the route on the surface of the ground. Today that sort of thing still goes on. When we invite friends for a first visit to our homes, we invariably sketch the way for them on a scrap of paper, indicating significant landmarks with appropriate signs. As a matter of fact, there are people who suffer from a sort of cartomania. If you merely want to cross the street, they will draw you a map, and if you don't permit them to do it they will go off in a huff and tell everyone in the neighborhood what a spoilsport you really are.

Varieties

Despite the simplicity of such efforts, their helpfulness is obvious. It is easy, then, to understand that when enlarged in scope, properly oriented, increased in detail, and drawn with some dimensional basis, that is, to scale, maps can be useful in a great many ways. In almost every phase of petroleum operation they are indispensable as aids in the preservation and presentation of important data in quickly assimilable and easily demonstrable form. Sales people use large geographical maps and colored pins to show at a glance, not only the narrowing or widening scale of their activities but also the extent of volume changes. The pins can represent people or district organizations; and we know one sensitive chap who was kept in a dither for a long time by a hard-hearted boss who was always threatening to loosen his pin if he didn't snap into it.

Routes and Routines

Pipeliners employ maps to show the routes and locations of main arteries and tributary lines, much of which are underground, making the maps even more essential. They are also used in this department to spotlight the sites of pump stations, tank farms, terminals, and to mark the positions of field tanks and the countless valves by which pipeline movements of oil are controlled. Refiners employ them for keeping track of underground and surface piping and for spotting all the miscellany of apparatus that constitutes the total plant. Refiners are also aided by a species of map called a flow chart, that shows the paths followed by the crude oil and all its subsidiary streams, from the initial movement to the ultimate delivery of the refined products. To none are maps more important than the land acquiring and oil finding people. As a matter of fact, a geologist or landman without a long roll under his arm looks practically naked. It has been vulgarly remarked that the map is the part of the anatomy that sticks out above the collar, and there is no question that this can tell quite a story, but in a serious dissertation of this sort there is no room for facetiousness, so let us all try henceforth not to be diverted by inconsequential matters.

Etymology of Maps and Charts

It is rather likely that most early maps were sketched on linen so that they would be more durable, for the word comes from the French **mappe**, meaning "a napkin." A person who draws maps is technically known as a cartographer, from the French **carte**, "a sheet of paper," and the Greek **graphos**, "drawing." **Carte** in turn is from the Greek **chartos**, having the same meaning and from which we derive our word "chart." This latter at one time referred almost solely to navigational maps which defined river, sea, and ocean routes, and adjacent land areas. The navigator's working quarters on nearly all vessels is still generally referred to as the "chart house." Meantime, "chart" has broadened greatly in significance and has now become a synonym for "graph." In other words, it conveys the impression of a drawing of some sort, designed to indicate trends or to show relationships.

How to Differentiate

In general it may be said that maps are geographical in nature. Those that cover large areas show positions with respect to the earth's latitude and longitude. The smaller ones show positions in relation to some lesser fixed object termed "a marker." Big or small, they are usually drawn to scale and oriented so that distances, directions, and areas, can be quickly and accurately determined. Charts and graphs are mathematical devices for making comparisons, establishing relationships, or graphically depicting effects. The two can be used in an endless variety of combinations and the scientifically minded people of the world have done that, and indeed are still doing it, with great benefit to mankind. Just when the first navigator, having drawn an outline map, began to plot on its face such additional bits of information as water depths, direction of currents, and other facts of interest to him, would be difficult to say, but in any case, he began a process of correlation and expansion that has continued to the present time. This is the process that changed sailing from a haphazard adventure to a planned and controlled system of navigation.

Plotting and Platting

There are two more words that are members of the cartographic group, namely "plot" and "plat," that should be discussed briefly here before we launch into the broader aspects of maps and mapping. Actually, this pair are synonymous. They

both come from a medieval English root **plotte,** "a small piece of flat land." They also mean now "a map of a small piece of land," and as a verb "the act of drawing such maps." That turning of a noun into a verb is a common process in language evolution and it sometimes leads to pretty horrible results. The French word **debut,** for example, has been adopted into American and a nice useful vocable it is, but sensitive souls must be jarred severely every time it is used as a verb, particularly in the hideous participial form "debuting." Returning to the main topic, just as the sailor increased the value of his maps by marking in depths, tides, currents, etc., so the finding scientist has made his more comprehensive by the addition of contour lines to show elevations, the use of colors to point the nature of surface rocks, and the employment of symbols of various kinds to indicate other characteristics and effects that might aid in the ultimate objective of discovering and producing oil.

Growing Interest

Included in that obscure segment of petroleum people known as the exploration group are now quite an array of specialists in addition to the geologist. The geophysicists have swelled their ranks since they first entered the petroleum picture, and now, besides the original seismologists, we have the gravimetrists measuring the gravity pull of the rocks, the magnetometrists measuring their magnetic attraction, and others utilizing spectroscopic and various forms of physical analyses in an effort to add their quota of evidence. The paleontologists, too, have broadened the scope of their investigations considerably, and now, in addition to the pioneer species that sought to fix the age of the rocks by the varieties and abundance of foraminiferal fossils (tiny marine organisms) they contain, we have paleoichthyologists doing the same thing with fossil fish or minor parts of fossil fish such as scales, palynologists who are specialists in fossil spores and pollens and their relation to geological time, radiologists striving for the same end point by measuring the radioactivity of the rocks, and chemists and physicists of infinite variety, each seeking in his own peculiar manner to take some of the uncertainty out of oil finding.

Of Anomalies and Such

The findings of each of these exploration specialists can be mapped separately or can be superimposed and become part of a composite picture. In any case, they are all designed for the same purpose, to aid in the finding of oil, or perhaps more correctly to find the structural irregularities that are most favorable to the accumulation of oil. The entire gamut of methods is seldom used in the same area, but it is not uncommon to make one type of survey and then try to prove or disprove its findings by one other or even several other types. Speaking of the structural irregularities, or anomalies as the geologists call them, in which oil is usually found, reminds me of an adventure related by H. S. M. Burns, former president of Shell Oil Company. Mr. Burns joined Shell over in Britain, and when he later was transferred to the United States and was going through the U. S. Immigration Department in New York, the examin-

A NEW HIGH STRENGTH ROD
WITH A JOINT TO MATCH
JONES TYPE 4

Full advantage of the high strength Type 4 Sucker Rod is realized with Jones' new undercut sucker rod pin. By stress relieving (undercutting) the pin shank, the stress concentration point of the runout thread, where pins tend to fail, is eliminated.
Available with rolled threads on special order.
Also available with conventional API pin.

CHEMICAL ANALYSIS

Carbon	Manganese	Silicon	Chromium	Molybdenum
.39/.46	.65/1.10	.20/.35	.75/1.20	.15/.25

TYPICAL PHYSICAL PROPERTIES

Yield psi	Ultimate psi	% Elong. 2"	% Red. Area	Brinell	Izod
105,000	127,000	22	55	255	70

THE S. M. JONES COMPANY
Division of Buffalo Eclipse Corporation
General Office and Factory: TOLEDO, OHIO
Sales Office: Enterprise Building, TULSA, OKLAHOMA
Distributed in California by HILLMAN-KELLEY

138

JONES
SUCKER RODS

ing officer inquired, "What is your business?" "I am a geophysicist," was the answer. "You're a what?" continued the perplexed inquisitor. "A geophysicist," Mr. Burns repeated, and then added by way of explanation, "I **study** anomalies in the gravitational field of the earth." "Well, for goodness sake," expostulated the officer, "why didn't you tell me in the first place that you were a student!"

Longtime Value of Maps

It can be seen from what has been stated so far that geological maps are by no means based on hunches. They represent the combined work and thought of practically everyone in the exploration department, not omitting scouts and landmen who haven't been mentioned to this point. There is no mistaking their importance in the processes of land acquisition and oil production, and in many instances they never lose their value throughout the life of an oil field, since the actual drilling and production brings more positive subsurface data to add to the total accumulation and this helps to make decisions in subsequent explorations, and especially in nearby areas to some degree (be it ever so minor) more accurate. Such maps themselves, of course, are constantly being altered in the light of fresh discovery and become graphic histories of the territories they cover. They are no respectors of persons and have ruthlessly punctured many pet theories by the simple development of new truths. Maps can tell the total story of an oil field almost as interestingly as the pioneer people who are responsible for it and commonly with greater accuracy. Large companies that are in the business of "search and capture" in many areas have thousands of them and they are as meticulously recorded and guarded as government bonds. I have heard of one executive office in which the occupant merely has to press the right button to bring up through the floor a large and comprehensive map of any section of the world in which oil has been found, is being looked for, or is likely to be looked for.

E Pluribus Unum

These show, among other pertinent features, the location and status of every oil and gas well, active, inactive, or in drilling progress. When the maps are not being examined or displayed by the said executive, they are down in the drafting department on the floor below being brought up to date by the geological world-scouting and cartographic staff. In the present state of our knowledge there is probably nothing more helpful in the oil finding business than the contour maps that are the joint product of surface geology and geophysics. It is probable that more land is acquired today on the basis of these wavy elevation lines and seismic charts than on any other consideration. However, when additional data is available, the exploration department sees that all the maps covering a certain area are regarded as one single map. The correlation and coordination of the various features in the over-all pattern are the final determinants on whether or not the chances of a hit are good enough to warrant the expense of drilling.

Preliminary Surveys

Just how do the exploration scientists go about this mapping business? If it involves completely new and unexplored territory, the surface geologists move in first and walk about with their little hammers and Brunton compasses. From some high elevation they may try to get a general idea of the surrounding area, then they make close examination of rocks, outcrops, chipping a piece off here and there and peering at it through their magnifying glasses. They are alert for any bit of information that might help to determine the size and shape of the underground deposit of oil, if any. Meantime, at appropriate locations they take elevation records, and all the data acquired in these preliminary surveys is noted on a rough chart. When they are later plotted, the contour lines, in conjunction with attendant information, may point the possibility of a potential oil-bearing structure.

Additional Data

By way of double check, a seismic crew or a gravity meter crew may next move in with their instruments and from the results of their surveys superimposed on the first map or used to draft a new one, will either affirm or disaffirm the findings of the surface seekers. Exploratory holes may then be drilled at significant locations and subsurface information compiled from electric logging, core analyses, character of cuttings, etc., will provide more data with which to draw further maps and charts, or at least to help the interpreters come to more definite conclusions. Before it gets through, if the exploratory organization is a big one, all the geo-scientific researchers may have had their chance to examine the cores and to make field surveys in order to add their peculiar species of map to the mounting total. The big hope, of course, is that all the maps in a particular area will support the same conclusion, especially the one that the area covers a sizable subsurface oil deposit.

The Recapitulation

Assuming that land in question has been bought or leased, then comes the necessity of studying all the maps to determine where the first well shall be drilled. To this end the district geologist pores over the maps and any auxiliary data that might help to define the size and shape of the oil pool that he thinks is down below. On the basis of this study, he recommends to the exploration chief that a well be drilled at such and such a location. Then all the exploratory brass is called into executive session and the district geologist is either laughed to scorn or his recommendation is acted upon and the project is turned over to the production department. All of this may take a few months or it may take many years, depending altogether on circumstances. Actually the piecing together of the constituent parts of a so-called geological map is not so simple as it sounds here. It isn't by any means like making a surface map in which all the elements are in plain view. The problem is to depict a structure lying perhaps 15,000 feet underground from the plotted elevations, such outcrops as are available, and any other surface indications, together with the seismologist's refraction strips, the paleontologist's foraminiferal analyses, and all other forms of evidence, none of which are absolute. In the long run, even after all the parts of the oil finding puzzle have been fitted into some sort of pattern, the interpretation is still the function of fallible humans, who, however, do a much better job of

deduction, thanks to the ancient science of cartography.

Photogrammetry

With advances in aviation and photography there came a new method of mapping, known as photogrammetry, that is faster, more economical, and in many instances more effective, than anything hitherto practiced. With today's fast film and high-speed cameras, it is possible to take clear, well defined photos of the ground from any altitude. This is a great advantage to the oil geologist because such photos can be taken in continuous sections in a comparatively short time and when they are properly pasted together they form a relief map of a considerable area, showing all the surface irregularities and conformities. When pasted together in pairs and examined through a stereoscopic device, they are three-dimensional, and an ingenious method has been contrived to determine the actual depths of the canyons and the heights of the elevated sections.

How It Works

This system permits the leisurely study of areas that may be quite inaccessible by land, and provides a faithful record of all the surface characteristics. It discloses outcrops and not only enables the geologist to see but to actually measure dips, folds, faults, and other interesting earth phenomena. All of these can be oriented exactly and can be transcribed in relative position to a map of the area by means of a copying device, known as a pantograph, that can reproduce simple line drawings to exact scale in any predetermined size. Pantograph is from the Greek panto, "all," and graphein, "to draw." Photogrammetry, the science of making maps from the air, has been employed in practically all parts of the country and photos taken by aerial survey concerns and certain government agencies are available to and used by lumbermen, miners, ranchers, oilmen, and many others to whom the nature of large ground areas is important. Such areas as have not yet been catalogued by photogrammeters can be photographed in jig time, the only deterrent being bad weather.

More Revealing

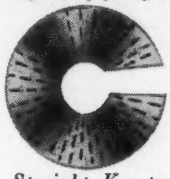
It is to be noted that photos taken from the air and then patched together sometimes reveal anomalies that can not be discovered from the ground. There is no question that these mosaics disclose surface phenomena that are quite obviously the result of subsurface conditions. A sudden bend in the course of a stream or an arroyo etched out by a former stream, may be caused by an earth bulge overlying a hidden dome or anticline. Of course, any anomalies showing up in a photogram would most likely be confirmed by some kind of geophysical survey before deciding to drill. The process, however, becomes more accurate with experience. It has now been known and practiced for some 30 years and the photographers and interpreters are both becoming more expert in their respective contributions. Certain features as viewed from the air are indicative of specific subsurface conditions. The relationship has been established by photographing already producing fields and noting the agreement between above-ground phenomena and the known subsurface formations.

And More Comfortable

The sweeping bird's-eye view that is obtained by the camera has an added value in the fact that it is a fixed image that can be examined over and over again for significant revelations. We have all been at parties where we have been required to take a look for a few minutes at an assortment of items on a table and have then been asked to go in a corner out of sight of them and record what we have seen. It is a pretty embarrassing business as a rule because what the human eye observes for five minutes the human mind fails to retain for more than one, and we find ourselves quite unable to list all the items. When the eye of the camera blinks open for a fortieth or a hundredth of a second, however, it doesn't miss a thing, and the image it retains can be examined without restriction as to time. This makes the photogram a very valuable record because anomalies that might be missed on a first look may show on the third or fourth. The logical explorer can take it in sections and deduce to his heart's content. Exploring some jungle fastness from a posture chair in a comfortable office is much less strenuous and far more revealing than carving through the arboreal tangle with a machete or its equivalent.

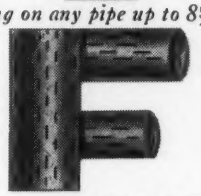
Pacific's "One Stop" Service for: Pipe

slotting on any size pipe up to 24" O.D.



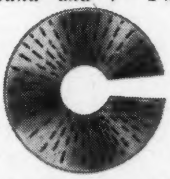
Fine Gauge, Straight, Keystone Slots; and

Threading on any pipe up to 8⅝" O.D.



Ventura Tool "Flush Joint" Thread . . .

A.P.I. "Round" and "V" Threads . . .



Pipe is smooth, clean and free from burrs. Threads are coated and completely protected in transit.

Call Pacific for a complete, precise job.

Pacific PERFORATING CO., Inc.

Main Office and Plant: **Torrance, California**

FAirfax 8-6787 • SPruce 5-3269

For prompt efficient service in:

Bakersfield	FAirview 2-4390
Ventura	MIller 3-5959
Taft	ROger 5-4426
Coalinga	Wells 5-2262

Grover Kilgore, vice president of Halliburton Company, presents award to Lee Boortz, Los Angeles division manager.

Los Angeles Division Earns Top Halliburton Sales Award

Halliburton Company's best sales record last year was made in its California division, it was announced in Los Angeles recently.

Grover Kilgore, the oil field servicing firm's vice president for sales and advertising from Duncan, Okla., headquarters, presented the 1960 sales progress award to division management and field supervisors from the southern half of California.

"Contrary to what the movies would have you believe, Texas does not produce all the oil in the country," Kilgore said. "Oil and gas fields on the West Coast are very important and our sales volume indicates just how important."

The company's twelve domestic divisions compete with each other every year for the best percentage increase in sales products over the previous twelve months. This is the first time in several years that the California division has won the contest.

Division manager Lee Boortz accepted the award on behalf of the division's 150 employees. The division has locations at Avenal, Bakersfield, Montalvo, Norwalk, Rio Vista, and Anchorage, Alaska, plus the division office in Los Angeles.

An award given to the Norwalk district for its part in helping the division win the sales contest was presented by Halliburton sales manager, Ed Trapp, to N. J. Blankenship, district superintendent.

A personal award for the best individual sales record in the division during 1960 was given by Boortz to W. E. Holbrook, who is a special tools operator at Halliburton's Norwalk location.

The sessions were conducted by Kilgore, Ed Trapp, sales manager, and three other Halliburton executives from the company's Oklahoma headquarters, R. G. Kelly, senior vice president; Harry P. Conroy, vice president in charge of field operations, and Edwin L. Paramore, regional vice president.

Meetings were also conducted at other division locations.

A.I.M.E. Lectures On Water Flood

The California Coastal Section of the Society of Petroleum Engineers, AIME, is sponsoring a lecture series entitled "Reservoir Engineering a Water Flood." These lectures are scheduled during March, April and May. Lectures are held on Tuesday nights from 7:00 to 9:00 p.m. in Room 91 of the Ventura Senior High School, 2155 East Main St., Ventura.

All members of the petroleum industry interested in the use of water injection for recovery of oil are invited to attend. Speakers for the series of eleven talks are all highly regarded members of the industry. Such top names as M. B. Standing, R. L. Perrine and H. J. Ramey, Jr., are representative of the speakers scheduled for the series.

New Gyp Retarding Agent Announced by Dowell

Gypban is the brand name of Dowell's new complex phosphate compound which retards deposition of gyp in and near well bores, on downhole equipment as well as surface well equipment. It is supplied in several solubility ranges to meet specific treating problems.

Gypban provides a sequestering action to prevent compounds of calcium and barium from precipitating to form insoluble deposits. In this action, phosphate ions adsorb into mineral crystals as they form to keep them in suspension and retard further growth.

A fully descriptive brochure may be obtained by writing Dowell Division of the Dow Chemical Company, P.O. Box 536, Tulsa, Okla.

Global Marine Exploration Contracts For Fantastic Project

Global Marine Exploration Company, a Union Oil subsidiary, will soon embark upon a fantastic scientific endeavor — drilling from the bottom of the ocean through the crust and into the earth's mantle. Tapping this unexplored area is expected to give scientists invaluable information and provide an uninterrupted record of the earth's development for two billion years.

The fantastic project will be carried out under contract with the National Academy of Sciences and the National Science Foundation.

Why do sweater girls look to the oilman? Simple. He's responsible for the petroleum-based synthetic fibers that go into so many of the sweaters they wear. And for the petroleum-based synthetic dyes that are used to color them. Because of oil research, clothing for the whole family has better appearance and longer life. Each advance in oil technology gives you, the oilman, a greater stake in society. And gives you more reason to speak up when anyone speaks out against oil. Today, everyone enjoys the benefits of oil—one of nature's most versatile resources.

SHELL OIL COMPANY

FOREIGN OPERATIONS
WEST COAST OIL COMPANIES

Arabian American Oil Company
(Standard Oil of California 30%)

If you are looking for news of depressed conditions in the oil industry, don't scan the 1960 record performance of Aramco.

Several accomplishments which might be noted are:

1—The four billionth barrel was produced since discovery of the prolific fields of Arabia.

2—On four months during the year records were successively broken for daily average production. This daily average reached 1,326,000 barrels in October.

3—On November 22nd a new record for one day's production was set at 1,492,697 barrels.

4—On March 25th a record total of 1,584,893 barrels was delivered offshore at the Ras Tanura terminal.

5—The same day a one-day record of 2,164,064 barrels was transferred from field storage.

6—During October a record total of 21,026,670 barrels of crude oil was shipped from Ras Tanura, a daily average of 678,280 barrels.

Puerto Rico Marketing

Compania Petrolera California, Inc., a wholly owned subsidiary of Standard Oil of California, has entered the retail marketing field in Puerto Rico, the first two service stations having been opened in February, 1961.

Puerto Rico, a 35-by-95-mile island in the Caribbean, spent four centuries under Spanish rule. In 1898 Spain ceded the island to the United States. In 1952 Puerto Rico became a commonwealth ("free and associated state") of the U. S. with our currency, our postal service and a representative in our Congress. Based on this political stability, the island has attracted 600 new industries, increased tourism, tripled the industrial use of electricity, and tripled the number of automobiles.

As of now Puerto Rico has 650 service stations and a demand of 50,000 barrels a day. Major marketers have long included Texaco, Esso and Shell, to which have recently been added Mobil, Gulf and Sinclair.

The Standard of California subsidiary is depending heavily on thorough and extensive training of its dealers to break into this competitive market. The Chevron stations there are the same color as in the United States and carry the same product brands.

General Exploration Co. of Calif.

C. G. Willis, president of this company, announced in mid-February that his company has been awarded licenses to explore for oil in a 10,000-square-mile area of the Irrawaddy Basin in Burma.

The announcement, made in Rangoon, said that these are the first foreign licenses issued to any concern other than the Burma Oil Co., which is 51% owned by the Burmese government.

Willis went to Burma to sign the documents and intended to remain for a time to initiate the field geology work on the newly acquired holdings.

General Exploration is reported to have been engaged in intensive scouting of the Burmese area for two years. Results of this survey indicated that oil development potential in Burma today is as great as it was in California 50 years ago.

In addition to the Burma concession, General Exploration holds a 50% interest in a 3,136,000-acre area in South Australia and 2,000 square miles on the Red Sea coast of Sudan.

The first exploratory well in the Australian area was spudded February 1st.

New Peruvian Refinery

A Peruvian company in which Standard of California has a 35% interest will break ground in April for a refinery of 6,650 b/d initial capacity facing the Pacific Ocean on the outskirts of Lima. The name of the company is Refineria Conchan-California S.A.

The refinery will be constructed alongside an existing marine terminal owned by a group of Peruvians holding the major interest in the new company.

The site is on a beach, bordered by sand dunes, similar to the terrain at Standard's El Segundo refinery in Southern California.

The only major refinery now operating in Peru is a 45,000 b/d plant 600 miles north of Lima, in the midst of oil fields. An Esso subsidiary operates that refinery, which now supplies most of the Peruvian market, 85% of which is in Lima.

On process design developed by Cal Research, Standard of Cal's Engineering Department will supervise the engineering and construction of the new refinery. Products, to start flowing in December, 1961, will be two gasolines, two diesels, two fuel oils and kerosene. Crude sources will be from independent producers in Northern Peru and from Standard's Venezuela fields.

Value of the project will be $4,700,000. Part of the Peruvian group's 65% will be contributed in the form of the existing marine terminal, which includes 220,000 barrels of tankage, tank truck loading racks, an offshore pipeline for tankers, and miscellaneous equipment.

This is Standard's first venture in a jointly owned refinery in Latin America. It is looked on as an important step on the road to increased cooperation between North and South America.

Shortly after this announcement, it was disclosed that a contract had been awarded to the Fluor Corporation Ltd. to perform the engineering and procurement of a 6,650-barrel-per-calendar-day crude unit and attendant facilities to be erected at Conchan.

Engineering of the project is under way in Fluor's Los Angeles office.

Mexican Lube Additive Plant

On February 15th it was announced that The Oronite Division of California Chemical Co. has started up a new plant in Mexico to manufacture lubricating oil additives.

The plant, known as Quimica Oronite S.A., is located ten miles from Mexico City. It will be operated by Casa Molina-Font of Mexico City, Oronite's licensed distributor in Mexico.

The new plant has initial capacity to handle one million gallons of blended additives a year. The facility includes nine storage tanks, a boiler plant, transformer station, office building and chemical laboratory.

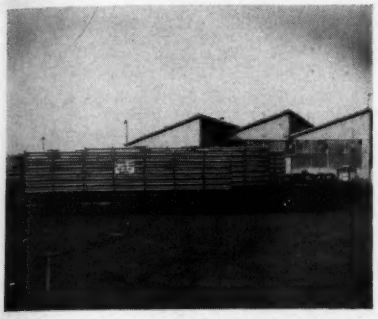
Oronite is one of the major marketers of industrial chemicals and chemical intermediates, including a complete line of lubricating oil additives, which, when added to base

oils, reduce engine wear as well as improve the performance of gasoline or diesel driven equipment.

California Chemical Co., of which Oronite is a division, is a subsidiary of Standard Oil Company of California.

Pipe for Peru

A nine-truck caravan, loaded with 50 miles of aluminum pipe, set out from Aluminum Co. of America's Vernon Works on February 14th,



Aluminum pipe from California starts journey to Peru.

bound for the Port of Long Beach and ultimately Talara, Peru. In the Pacific Ocean off Peru's northern coast, the 40-foot lengths of pipe will be installed as offshore flow lines by Peruvian Pacific Petroleum Company.

Stretching aluminum pipe across the bottom of the ocean, between wells and tank farms ashore, was first accomplished last year when Peruvian Pacific announced the petroleum industry's initial underwater well completion. Alcoa aluminum pipe was selected as the flow line material then as now because of its good weldability, ease of installation and strong resistance to sea water corrosion.

The February 300,000-pound shipment of 2-inch schedule 40 and 3-inch schedule 10 pipe marks the second since Peruvian Pacific achieved the underwater completion—an indication of aluminum's high performance in a difficult application.

Peruvian Pacific Petroleum Company is jointly owned by Richfield Oil Corp. and Cities Service.

Appointment—California Chemical International, Inc.

David Knapp has been named director and vice president in charge of European marketing activities for industrial chemicals sold by Cal Chemical's Oronite Division.

With California Chemical's parent firm, Standard Oil Company of California, for ten years, Knapp has most recently served on the Eastern Hemisphere staff, providing staff assistance to officers of the corporation on the affairs of California Texas Oil Co., one of Socal's Eastern Hemisphere affiliated firms.

His duties consisted of analysis, appraisal and recommendations to management of Caltex proposals and problems concerned with the 110 companies in the Caltex group which currently operate in 74 countries in the Eastern Hemisphere.

In his new position, Knapp will be headquartered at Cal Chemical International's offices in Geneva, Switzerland.

Aramco Notes

New Drilling Record—Abu Hadriya well No. 7 was recently completed in record time for this field. Sixty-six days from spudding to completion cut approximately in half the best previous record of 128 days. The well was completed at a total depth of 9,550 feet.

The improved drilling time resulted from close coordination between engineering and operations in such areas as well design and slim-hole drilling and improved drilling hydraulics.

Oil in commercial quantities was discovered in the A and B members of the Arab zone Abu Hadriya Well No. 7.

APPOINTMENTS—In Arabia C. A. Kemp has been named superintendent, transportation division, Dhahran district. Kemp first joined Aramco in 1947 in San Francisco. He went to Arabia in 1950 as automotive engineer. A progressive series of more important assignments was climaxed by the appointment just announced.

David Knapp

B. C. Nelson, formerly coordinator, personnel division, was appointed coordinator, labor relations division, industrial relations department, general office.

Nelson, like Kemp, began work with Aramco in San Francisco in 1947. Since then he has worked at all Aramco major locations.

He came to Arabia in 1952 and since then has served in various posts in personnel and industrial relations, leading up to his present appointment.

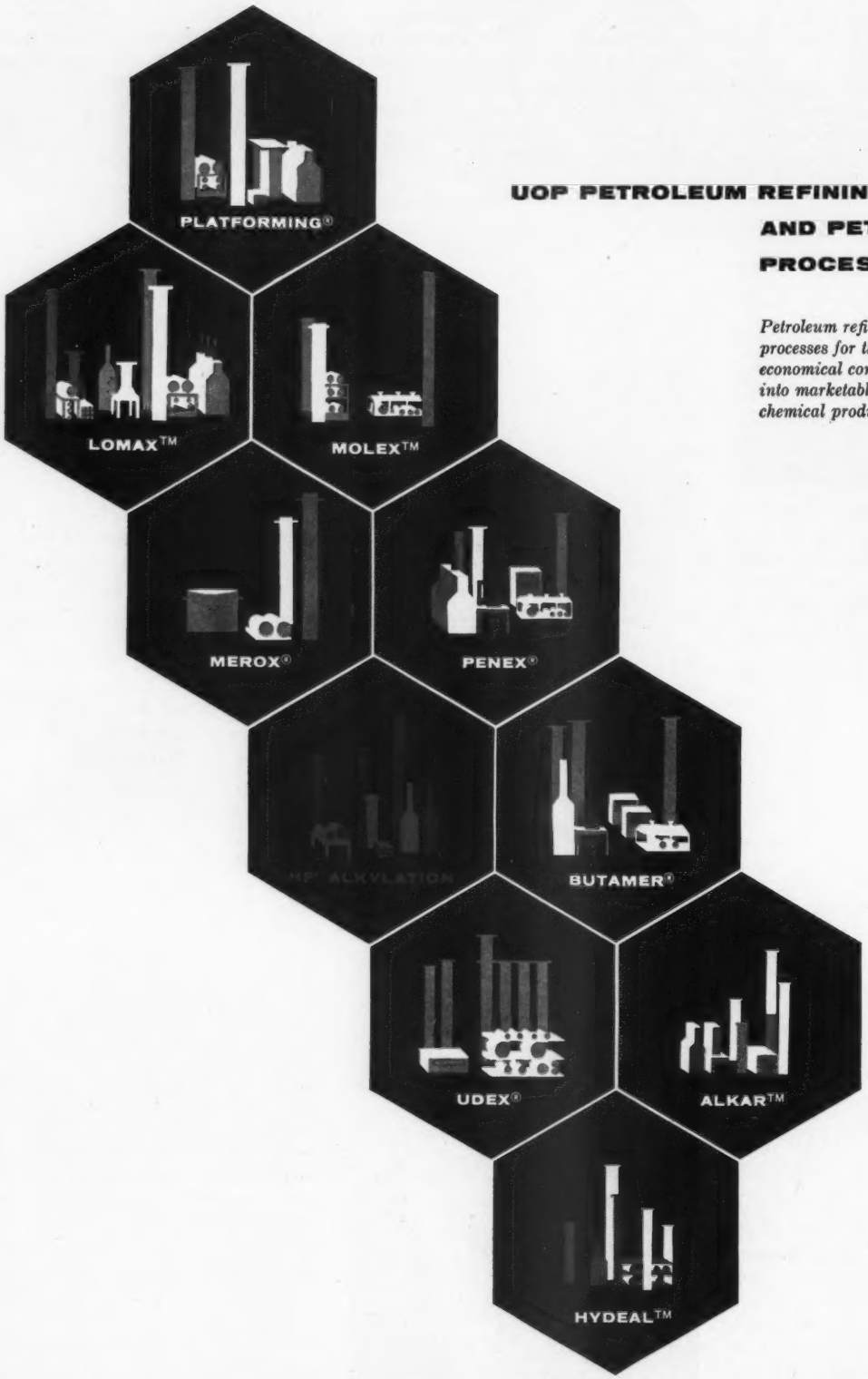
New Plans Announced For Compton Foundry

Common stock of Compton Foundry formerly held by Byron Jackson Division, Borg-Warner Corporation, has now been acquired in full by the foundry. The announcement was made jointly by James Barr, president and general manager of Compton Foundry, and Andrew W. Rose, president of Byron Jackson.

Located in Compton, California, the foundry was organized in 1946 and produces iron castings using processes under license from the Meehanite Metal Corp., New Rochelle, New York. While originally established as a foundry specializing in complex engineering-type castings, Compton has now added equipment to expand its facilities for "production run" castings, said Barr.

In the announcement Rose stated: "This fulfills Byron Jackson's original purpose of investment in Compton. We desired to aid in the establishment of an independent Los Angeles source of high quality castings for advanced requirements. Compton Foundry has filled this need and we are pleased that its management has now assumed full ownership of this excellent facility."

Officers of the company, in addition to Mr. Barr, are Charles Ford and Lloyd F. Walner, vice presidents, and Harold D. Ellis, secretary-treasurer.



UOP PETROLEUM REFINING AND PETROCHEMICAL PROCESSES

Petroleum refining and petrochemical processes for the efficient and economical conversion of petroleum into marketable fuel and chemical products.

now blend in cleaner burning, highest octane components

"HF" ALKYLATION gives refiners a blending component that combines the ideal qualities of a clean burning fuel that gives smooth engine performance with high octane number. Often refiners find themselves pushed into an economic corner in producing gasolines that burn clean, efficiently, and give maximum power. "HF" Alkylation is a catalytic process that produces an isoparaffinic fuel component that burns with a minimum of carbon deposit . . . greatly reduces surface ignition and consequent rumble . . . and is ideally suited to the auto engine of today.

The UOP-developed "HF" Alkylation process combines olefins such as propylenes, butylenes and amylenes with an isoparaffin, usually isobutane. The product formed, alkylate, is a mixture of branched chain hydrocarbons of higher molecular weight. It is widely used in producing high octane aviation gasoline, as well as an anti-rumble component in motor fuel.

UOP also offers Sulfuric Acid Alkylation for special situations where the refiner's economic, supply, or production situation may give this process a greater profit potential.

With more than a score of different processes UOP can offer you the most profitable method for the processing of petroleum. Let UOP engineers evaluate your processing needs now.

WHERE RESEARCH TODAY
MEANS PROGRESS TOMORROW

UNIVERSAL OIL PRODUCTS COMPANY
30 Algonquin Road, Des Plaines, Illinois, U.S.A.

Personalities IN THE NEWS

R. A. Moody Elected Asst. Treasurer Of Universal Oil Products Co.

Robert A. Moody has been elected assistant treasurer of Universal Oil Products Company. He also retains the duties of budget director, a position he has held since 1957.

Prior to joining UOP in 1956, Mr. Moody was associated with Humble Oil and Refining Co. He has a bachelor's degree from Cornell University and a master of science degree in chemistry from the University of Michigan.

Mobil Names Adam Vice President And General Manager of Mfg.

Ray C. Adam has been named vice president and general manager of manufacturing for Mobil Oil Company, the operating division in the United States and Canada for Socony Mobil Oil Company. Headquartered in New York, he will be responsible for Mobil's 12 refineries in the United States, which have a total rated capacity of more than 700,000 barrels per day.

An engineering graduate of the University of Arkansas, Adam joined the company as a process engineer in 1946 at Mobil's Beaumont, Tex., refinery. After holding various refinery positions, he was named manager of planning, analysis and economics for Socony Mobil Oil Company in 1960.

William H. Montgomery, manager of Mobil's manufacturing department since 1959, retired March 1 after nearly 35 years of service.

Baroid Transfers Two Engineers, Nix and Pemberton, to California

Baroid Division National Lead Company has announced the transfer of **Perry G. Nix,** service engineer, to Ventura, California, in the company's Pacific Coast area. Nix obtained his B.S. degree from Northeast Louisiana State College.

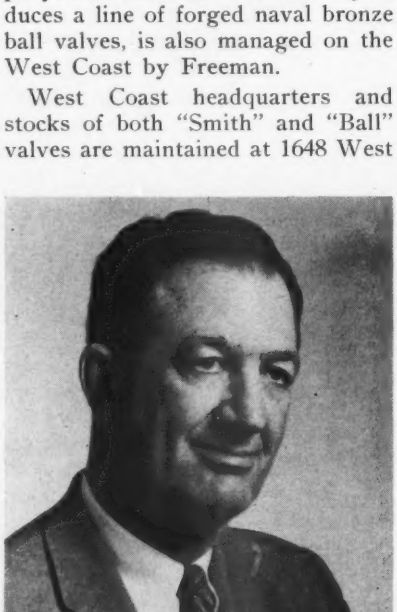
Baroid also announced the transfer of **Ward Ray Pemberton,** service engineer, from Liberty, Texas, to Woodland, California. Pemberton has also previously served with Baroid in Abilene and Beaumont, Texas.

Jack R. B. Freeman West Coast Mgr. for New England Valve Corp.

Jack R. B. Freeman has been appointed West Coast Manager for the New England Valve Corp., according to a recent announcement made by **James DeWolfe Smith,** executive vice president. Freeman's first acquaintance with petroleum industry sales occurred in 1934 when he was employed as office boy by Republic Supply Co. of California. In 1947 he joined Bethlehem Supply Co. and held positions as salesman, San Francisco manager, manager of stores and general manager of sales.

New England Valve Corp., Worcester, Mass., manufactures the well known line of "Smith" small forged steel valves, used in the refining and process industries. An affiliate company, Ball Valves, Inc., which produces a line of forged naval bronze ball valves, is also managed on the West Coast by Freeman.

West Coast headquarters and stocks of both "Smith" and "Ball" valves are maintained at 1648 West 135th Street, Gardena.



Jack R. B. Freeman

H. F. "Morry" Morrison represents both lines in the San Francisco Bay area.

A.P.I. Awards

Two Southwestern oilmen received special tribute from the American Petroleum Institute at the API Southern District meeting held March 8-10 at the Washington-Youree and Captain Shreve Hotels, Shreveport. The awards, in the form of the API Citation for Service, were announced and conferred by Gage Lund, API vice president for production and vice president of Standard Oil Co. of California, San Francisco.

Recipients of the Citation are George R. Gray, Baroid Division, National Lead Co., Houston, and Lloyd A. (Pete) Little, Lufkin Foundry and Machine Co., Lufkin, Texas.

Gray's award is in recognition of outstanding service since 1951 to oilwell drilling fluids studies and the technology thereof. The award to Little recognizes his service in the American Petroleum Institute's oilwell production equipment standardization program.

Exploration Geophysicists Hear Dr. Woods at Luncheon

Dr. John P. Woods, national president of the Society of Exploration Geophysicists, addressed the Pacific Coast Section of the Society at a luncheon meeting March 9 at Rodger Young Auditorium, Los Angeles.

Dr. Woods is director of the geophysical laboratory for the Atlantic Refining Company in Dallas, Texas. "The Future of Geophysics" was the title of his presidential address, which he is presenting before local sections of the Society throughout the country.

Bakersfield geophysicists also heard Dr. Woods at a dinner meeting March 9 at the El Tejon Hotel.

Charles M. King of Baker Oil Tools, Inc. (left) has just received the Chapter Gavel as incoming president of the Los Angeles Chapter of Nomads from Taylor Bannerman of Technical Oil Tool Corp., retiring president, at the Inaugural Ball held in the Biltmore Bowl, February 11, 1961.

WOGA's Fire Fighting School March 9-11 in Bakersfield

Over 500 professional fire fighters gathered in Bakersfield March 9-11 to learn about the safe handling of flammable liquids and control of oil fires.

T. S. Ward, fire training supervisor, Bureau of Industrial Education, stated that the State Board of Education sponsored the school in cooperation with the Kern County Fire Department; and has asked Western Oil and Gas Association to participate due to its long record of successful fire schools. He said that petroleum fires are not an exceptional problem to firemen who have been trained in their control and that such training has benefited communities throughout the State.

School chairman O. W. Johnson, fire protection engineer, Standard Oil Company of California, and member of WOGA's fire and safety committee, expressed the oil industry's pleasure in the invitation by stating that oilmen welcomed the opportunity to accept this community responsibility.

Those attending included fire service line and training officers, State Fire Marshal's Bureau and Highway Patrol representatives and out-of-State firemen.

The study was of petroleum fires through lectures, demonstrations and actual participation in fire fighting. Other discussions included the design, engineering, inspection and behavior, under fire conditions, of various oil tanks and vessels.

Bakersfield Fire Chief Charles Linnell welcomed the firemen.

In addition to Mr. Johnson, James E. Hill, supervisor of fire and safety, Union Oil Company of California, past chairman of WOGA's fire committee, represented the oil industry as a technical expert. Other oilmen served as instructors in both classes and demonstrations.

S. Z. Natcher Addresses San Francisco D. & D. Club

International problems faced by the oil industry were discussed by S. Z. Natcher, manager of the public relations department of Standard Oil Company of California, before a dinner meeting of the Desk and Derrick Club of San Francisco at Maximo's March 9.

Natcher, before he became public relations manager in 1957, was president of Iran California Oil Co. in London.

Earl M. Daniels (right) of Hydril Company receiving a diamond lapel insigne for two years service as Regent of the Los Angeles Chapter of Nomads from Master of Ceremonies Robert P. Gaylord of Wagner-Morehouse, Inc. at the Twenty-Second Annual Inaugural Ball held in the Biltmore Bowl February 11, 1961.

AAPG Luncheon Meeting

Mr. V. L. Vanderhoof, director, Museum of Natural History, Santa Barbara, California, addressed the regular luncheon meeting of the Pacific Section of the A.A.P.G. The topic of Mr. Vanderhoof's talk was "Illustrations of the Historical Earthquakes of California."

The luncheon was held March 2 in the Rodger Young Auditorium, Los Angeles, at 12:00 noon.

THE 1961 OFFICERS OF THE LOS ANGELES CHAPTER OF NOMADS are here shown at the Twenty-Second Annual Inaugural Ball held in the Biltmore Bowl, February 11, 1961. From left to right: (front row) Tom R. Ashe of Globe Oil Tools Company, Regent; Taylor Bannerman of Technical Oil Tool Corp., Regent; Charles M. King of Baker Oil Tools, Inc., President; Robert P. Gaylord of Wagner-Morehouse, Inc., Master of Ceremonies; Jack S. Smith of Byron Jackson Tools, Inc., Vice President; Willard F. Goertz of Monarch Engineering Corp., Deputy Sergeant-at-Arms; (back row) Henry W. Pullman of Baker Oil Tools, Inc., Senior Regent; John Cochran of drilltrol, Assistant Treasurer; Louis Q. Webber of Martin-Decker Corp., Treasurer; Ray Elner of Kobe, Inc., Secretary; Lee J. Laird of Ladish Pacific Div., Sergeant-at-Arms. (Not shown, Neal B. Thompson of Ken Corp., absent in Trinidad.)

Summary of District V Oil Industry Conditions December, 1960 (and January 1961 Preliminary)

By OIL PRODUCERS AGENCY OF CALIFORNIA

Highlights

The last month of the year 1960 was marked by a substantial withdrawal, 106,000 b/d, from inventories, which brought year-end stocks to 114,785,000 barrels, 12,211,000 under the 126,896,000-barrel level of December 31, 1959.

Three categories of stocks: crude, distillate, and residual fuel, accounted for the December withdrawals with total reductions of 109,000 b/d. Gasoline stocks increased 32,000 b/d but withdrawals in other categories accounted for the net reduction of 106,000 b/d for the month.

A summary of the U. S. Bureau of Mines estimate for January, 1961, based upon weekly American Petroleum Institute and U. S. Bureau of Mines' data, follows. Included is a comparison of 1960 results with those of 1959.

Total Supply, Demand and Stocks

Preliminary figures for January indicate that total supply was 1,449,000 b/d, demand was 1,385,000 b/d, and stocks increased 64,000 b/d. This increase, 1,984,000 barrels for the month, would bring stocks to 116,769,000 barrels on January 31, compared with 124,664,000 on January 31, 1960. The year's decrease is 7,895,000 barrels.

1960 vs. 1959

Total supply averaged 1,388,000 b/d in 1960, 58,000 b/d, or 4.4%, higher than the average of 1,330,000 b/d in 1959.

Total demand averaged 1,424,000 b/d in 1960, up 55,000 b/d or 4.1% from the 1959 average of 1,369,000 b/d.

Total stocks decreased 12,111,000 barrels, 33,000 b/d, during 1960, against a decrease of 14,104,000 barrels, 39,000 b/d, during 1959.

Crude Production and Stocks

Weekly figures for January indicate that crude production was 835,000 b/d, imports were 343,000 b/d, and stocks increased 16,000 b/d. This increase, 496,000 barrels for the month, would bring crude stocks to 31,233,000 barrels on January 31, compared with 33,234,000 on January 31, 1960. The year's decrease was 2,001,000 barrels.

1960 vs. 1959

Crude production in 1960 averaged 838,000 b/d, 5,000 b/d or 0.6% under the 1959 average of 843,000 b/d.

Crude and unfinished oils imports were 291,000 b/d in 1960, up 45,000 b/d or 18.3% from 1959 imports of 246,000 b/d.

Crude stocks declined 3,538,000 barrels, 10,000 b/d, in 1960, compared with a decrease of 5,926,000 barrels, 15,000 b/d, in 1959.

Gasoline Supply, Demand, and Stocks

Preliminary figures for January indicate that gasoline supply was 571,000 b/d, demand was 518,000 b/d, and stocks increased 53,000 b/d. This increase, 1,643,000 barrels for the month, would bring stocks to 32,995,000 barrels on January 31, compared with 33,871,000 on January 31, 1959. The year's decrease was 876,000 barrels.

1960 vs. 1959

Gasoline supply averaged 586,000 b/d in 1960, up 12,000 b/d or 1.1% from the 1959 average of 574,000 b/d.

Gasoline demand was 586,000 b/d in 1960, an increase of 3.0% or 17,000 b/d over the 569,000 b/d average in 1959.

Gasoline stocks increased 12,000 barrels in 1960, compared with an increase of 2,060,000 barrels, 5,000 b/d, in 1959.

Distillate Fuel Supply, Demand, and Stocks

Weekly figures for January indicate that distillate fuel supply was 22,000 b/d, demand was 214,000 b/d, and stocks increased 6,000 b/d. This increase, 186,000 barrels for the month, would bring stocks to 15,233,000 barrels on January 31, compared with 13,587,000 on January 31, 1960. The year's increase was 1,646,000 barrels.

1960 vs. 1959

Distillate fuel supply in 1960 averaged 204,000 b/d, an increase of 4.1% or 8,000 b/d over the 1959 average of 196,000 b/d.

Demand for distillates in 1960 was 205,000 b/d, up 10,000 b/d or 5.1% from the 195,000 b/d of 1959.

Distillate stocks decreased 210,000 barrels, 1,000 b/d, during 1960, against an increase of 410,000 barrels, 1,000 b/d, in 1959.

Residual Fuel Supply, Demand, and Stocks

Preliminary figures for January indicate that residual fuel supply was 315,000 b/d, demand was 351,000 b/d, and stocks decreased 36,000 b/d. This decrease, 1,116,000 barrels for the month, would bring the total to 13,335,000 barrels on January 31, compared with 19,277,000 on January 31, 1960. The year's decrease was 5,942,000 barrels.

1960 vs. 1959

Residual fuel supply averaged 300,000 b/d in 1960, 17,000 b/d or 6% higher than the 1959 average of 283,000 b/d.

Demand for residual fuel in 1960 was 322,000 b/d, 11,000 b/d or 3.5% above 1959 demand of 311,000 b/d.

Residual stocks decreased 8,248,000 barrels, 22,000 b/d during 1960, compared with a decrease of 10,057,000 barrels, 28,000 b/d, in 1959.

Monterey Oil Declares Second Liquidating Dividend

The board of directors of Monterey Oil Company declared a second liquidating distribution of $7 per share on the 1,952,115 shares of common stock outstanding, payable on or after March 13.

President Howard C. Pyle said the company expects to make a third and final liquidating distribution of approximately $1 per share later this year, which will result in total distribution of about $42 per share of Monterey stock.

Following the sale of the company's principal assets to Humble Oil & Refining Company, Monterey made an initial distribution of $34 per share to stockholders last January 18.

Pyle said Monterey is calling in all of its outstanding stock certificates and is closing its transfer books as of the close of business March 10. No transfers of Monterey stock, he said, will be made on the books of the company after that date and the shares will cease to be traded on the New York Stock Exchange on the morning of March 13.

The president said the company will mail on March 10 to shareholders of record that day instructions regarding presentation of their stock certificates to Chase Manhattan Bank, the company's transfer agent, in order to receive this second and later, the final liquidating distributions.

A section of 3½-inch seamless steel drill pipe from Jones & Laughlin Steel Corporation is threaded into place by a Yates Drilling Company crew working at the Atomic Energy Commission's Project Gnome site in New Mexico. This 30-foot section is part of a mile-long string of J&L drill pipe with which Yates has drilled approximately 300,000 feet of wells since January, 1955. The string still is in use.

PT-4 Triplex Plunger Pump

A new pump, the PT-4, introduced by Gardner-Denver Company, offers the simplicity of compact design and the advantage of high volumetric efficiency. The PT-4 is a triplex plunger pump which operates at 70 HP input at 400 RPM.

Ideally suited for waterflood and salt water disposal, the PT-4 fills many needs in general industry such as chemical, refining, and food processing plants.

Low pressure range of the PT-4 is from 510 psi to 1563 psi, while the high pressure range maximum is 3000 psi. Plunger sizes are 3½ down to 1¼ inch by 4 inch stroke and plunger load is 4910 pounds. Overall weight is 1370 pounds.

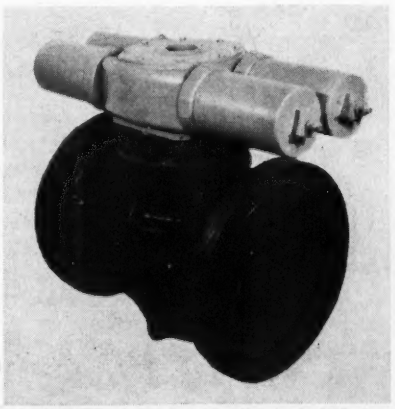
Equipment and design features of the new pump include Colmonoy plungers, aluminum bronze wing guided valves, and direct drive through double extended crankshaft. The fluid end has a double sided suction and is a direct flow design through the fluid cylinder. Insert type connecting rod assemblies and removable stuffing boxes are standard features. The fluid end can be serviced without disturbing the power end.

New Compact Valve Actuator by Bettis

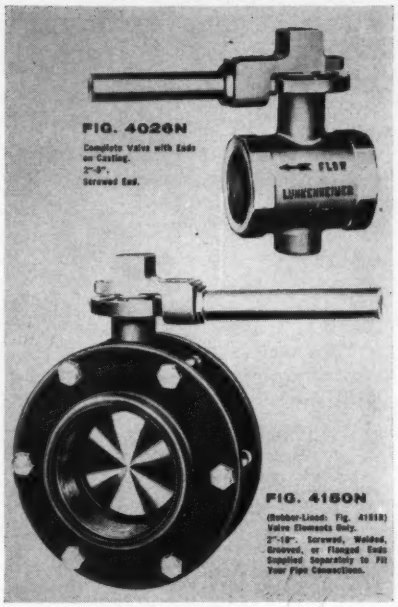
A new ROBOTARM valve actuator, designed and manufactured by the Bettis Corp. of Houston, allows positive remote control of any type of rotary operation of butterfly, ball or plug valves, or any device that requires 90-180° rotation. ROBOTARM units are manufactured in several sizes from 750 to 300,000 inch-pounds of opening and closing torque at 100 psi air pressure.

The ROBOTARM is air or hydraulically operated. The unit is compact, totally enclosed and sealed, and can be furnished in some sizes with Fail Safe Spring returns. ROBOTARM units are now in use for operating valves beneath the sea on offshore bottom completions.

Furnished complete with adapters for quick and easy installation on any type of rotary-operating valve, ROBOTARM units are the most compact valve actuators on the market.



ROBOTARM model 744 quad unit on 16" plug valve supplies a torque of 60,000 inch-pounds minimum for valve actuating.



Lunkenheimer Announces New Butterfly Valves

A new line of butterfly valves has been announced by the Lunkenheimer Co. of Cincinnati.

The third new product to be introduced by Lunkenheimer in the past few months, the new butterfly valves are rated at 150 pounds water pressure and cover a pipe size range from two to 18 inches.

The announcement of the butterfly valves follows by only a few months Lunkenheimer's introduction of its new ball valve. In mid-1960, it brought out a new union bonnet bronze gate valve. The new gate valve was an immediate success, and according to distributors, the new ball valve is also enjoying quick acceptance.

Lunkenheimer's butterfly valves have nickel-plated cast iron or cast steel bodies with stainless steel trim. For special applications, a variety of alternates is available on many of the figures, including rubber or ceramic lining, monel trim, and aluminum-bronze discs.

Field Development

LOS ANGELES BASIN

Culver City Wildcat Test

Trigood Oil Company is completing safety details preparatory to commencing MGM No. 1, a test on the MGM Studio property at Culver City. Surface location for the directionally drilled well is near the intersection of Jefferson Blvd. and Overland Ave. on MGM Studio Lot 3 in Section 7-2s-14w.

Prado Dam Outpost

A. L. Hunter, Operator, has staked location for Sardco No. 2 in the northwest quarter of Section 20-3s-7w. All of the assets, including the 780-acre lease, of the Alpoil Company have been acquired by Mr. Hunter.

Manix Test to Deepen

Sierra Oil & Gas Company is preparing to deepen Wilhelm No. 1 located on the southwest quarter of Section 5-10n-4e in San Bernardino County. The well is 25 miles east of the town of Barstow and was abandoned in 1959 at a depth of 6404 feet.

Humble Outpost Test

Humble Oil & Refining Company has announced a location for Monterey-Texaco-State No. 119. The well is located offshore from Belmont on projected Section 22-5s-12w.

Antelope Valley Wildcat Test

San Roque Oil & Exploration Co. has staked location for Skelton No. 1 in the southeast quarter of Section 31-8n-15w approximately 20 miles west of the town of Lancaster. Drilling is expected to start about March 15th and plans are to drill to 5000 feet.

Newhall-Saugus Wildcat

C. D. Cunningham and H. P. Maculey of Long Beach are preparing to drill Bonelli No. 1 on the southeast quarter of Section 14-4n-16w. The test is located on a 600-acre farmout from the Union Oil Company and will be drilled to approximately 3500 feet.

SAN JOAQUIN VALLEY

Shell Wildcat Test

Shell Oil Company is preparing to move in to drill F & B No. 2, a new pool wildcat test on the northwest quarter of Section 8-30s-21e in Kern County. The location is approximately 3500 feet northwest of production at the Belgian Anticline Field.

Buena Vista Gas Completion

Standard Oil Company of Calif. completed Well No. 17-21B flowing 333 mcf of gas per day from the Mya perforations 2053-2063 feet. Flow was through a 12/64" bean with pressures of 540/570 psi and the well is a new pool discovery in the Second Mya Sand. Drilled to a total depth of 3506 feet with a plug at 2490 feet, the well is located on the southwest quarter of Section 21-31s-23e.

West Coalinga Outpost

Falcon Oil Company, c/o Max Newton of Coalinga, is moving in rotary to drill Continental No. 3, a westerly outpost to the West Coalinga field. The test is located on the southwest quarter of Section 8-20s-15e about ¼ mile east from present production.

South Coles Levee Test

M J M & M Oil Co. and McCulloch Oil Corp. of Calif. are grading roads and rig site for KCL No. 54-2 to be drilled on the northeast quarter of Section 2-31s-25e. The location falls on the east flank of the field about ½ mile from present production and will be drilled to approximately 10,000 feet to test the Stevens Sand.

Monterey County Development

Texaco Inc. has staked locations for eight development wells in the San Ardo Field. On the Orradre lease, Wells No. L3-13 and N3-13 will be drilled on the northeast quarter of Section 13-23s-10e. Locations for six wells have been staked on the Rosenberg lease, three on Section 3, two on Section 2 and one on Section 11, all in 23s-10e.

Nine South Belridge Wells

Socony Mobil Oil Company, Inc., has staked locations for nine development wells in the field. Wells No. 35A, 39A, 200-2, 205-2 and 208-2 will be drilled on Section 2, Wells No. 64-3, 65-3 and 68-3 are located on Section 3, and No. 100-11 will be drilled on Section 11, all in 29s-21e.

Fruitvale Outpost Completing

The Artnell Company is moving in production tools to complete KCL-Calloway-Canal No. 1 from the perforated intervals 4220-4202 feet and 4197-4180 feet. The test is located west of production on the northwest quarter of Section 28-29s-27e and is being completed from a total depth of 4220 feet.

Semitropic Gas Test Abandoned

McCulloch Oil Corp. and Arrowhead Oil Company drilled to 2475 feet on McCulloch-Arrowhead-Monterey No. 1 and on an open hole test recovered water. The well was taken over by the Arrowhead Oil Co. and deepened to 4485 feet before being abandoned. The test was located on the southeast quarter of Section 25-27s-23e.

Burrel Outpost Test

Carr and Wrath are drilling below 5000 feet on Burrel Ranch No. 82A-12 located on the northeast quarter of Section 12-17s-18e in Fresno County. The well is just west of production and will be drilled to about 8250 feet.

Nordon Corp. Completion

Nordon Corp., Ltd., completed Noble No. 4-9 flowing 214 b/d of 35.0 gravity oil with a flow pressure of 940 psi. Flow was through a 9/64" bean from the perforated intervals 6852-6858 feet and 6861-6864 feet. Located immediately south and east from the center of Section 9-17s-18e, the well was drilled to a total

depth of 6947 feet and cemented 5½" casing on bottom.

NORTHERN CALIFORNIA

Galt Area Gas Test

Ben Owens Drilling Co., Operator, is moving in equipment to drill Oliveria No. 1 on the southeast quarter of Section 34-5n-6e in San Joaquin County. The test is scheduled to be drilled to 3000 feet and is two miles northwest of the Galt Gas Field, which has one producing well.

West Grimes Gas Completion

Occidental Petroleum Corp. completed Sachreiter No. 2 flowing 13,450 mcf of gas per day with flow pressures of 2100/3400 psi and shut-in pressures of 3400/4400 psi. Flow was through a ½" bean from the perforated intervals 7806-7786, 7722-7710 and 7706-7688 feet. Total depth of the well is 7926 feet with 5½" casing cemented at 7925 feet. The completion is located 1320 feet due north of the center of Section 4-14n-1w in Colusa County and extends the field 3000 feet to the northwest.

Drilling & Exploration Wildcat

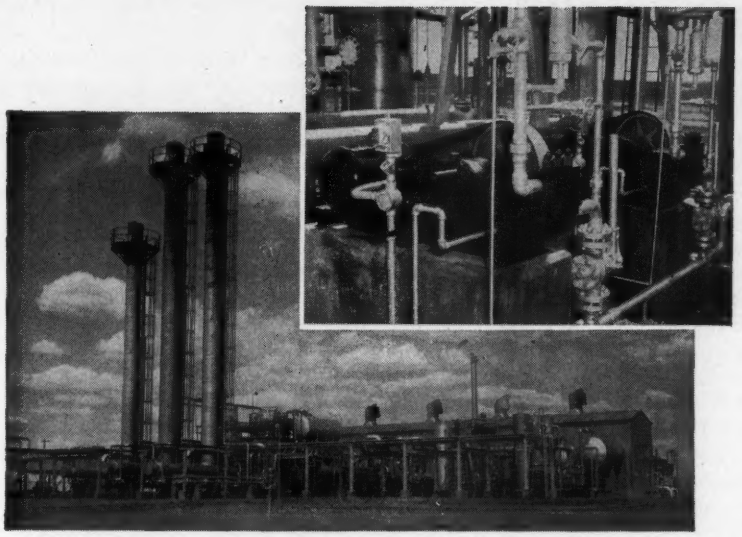
Drilling & Exploration Co., Inc., is moving in rotary to drill Magoon Estate, Ltd., No. 1 located on the northwest quarter of Section 15-12n-3e in Sutter County. The test will be drilled by the Brown Drilling Co. and is 15 miles east of gas production at the Sycamore Slough Field.

Gulf Oil Corp. Completion

Gulf Oil Corp. of Calif. completed C. B. Stoddard No. 1 flowing 10,830 mcf of gas per day through a 3/8" bean from the perforated interval 7662-7692 feet. On an open flow potential test the calculated flow was 50,000 mcf. The completion is a southerly offset to Occidental Petroleum Corp.'s Sachreiter No. 1, the discovery well of the West Grimes pool. Located on the northeast quarter of Section 9-14n-1w in Colusa County, the well was drilled to a total depth of 8000 feet and has 5½" casing cemented at 7940 feet.

River Island Completion

Brazos Oil & Gas Company redrilled Silva-Brun Community No. 2 and recompleted the well flowing 1050 mcf of gas per day through a 15/64" bean from the Main Domengine Sand perforated at three intervals within 3791-3698 feet. Located on the northwest quarter of Section 29-4n-4e in Sacramento County, at a



JOHN BEAN PUMPS HELP TAKE WATER OUT OF GAS

LITTLE BEAVER, COLO.: Two John Bean 620 Pumps, operating on an alternate-continuous basis since 1955, are helping to reduce the water content of natural gas for the Continental Oil Company's Little Beaver Gas Plant.

The two 620's are pumping 3 to 4 GPM at sufficient pressure to introduce glycol into a commercial gas line running at 800 PSI. The combination of glycol, a refrigeration and heat exchanger process and the two John Bean Pumps absorb water from the natural gas to meet commercial gas requirements for use by the Public Service Company of Colorado.

The pumps used in this application are the John Bean outside packed Triplex Pumps, specifically designed for high pressure pumping—100 to 6,000 PSI and for fluid temperatures up to 300° F. The units used in this application are complete, compact assemblies consisting of a pump, electric motor and belt drive on a welded steel base.

Long life and low-cost maintenance is assured by John Bean exclusive time-tested features. These include the completely enclosed, oil bath lubricated drive end, outside packed plungers and poppet valves with replaceable tapered seats.

What's Your Pumping Problem?

Perhaps you have an unusual pumping problem that demands John Bean dependability and ingenuity. Send us the details on your specific problem and John Bean engineers will send you a complete recommendation and descriptive literature. Write department CO-8.

John BEAN®

fmc FOOD MACHINERY AND CHEMICAL CORP.

DIVISION OF

FOOD MACHINERY AND CHEMICAL CORPORATION

SAN JOSE, CALIFORNIA • LANSING, MICHIGAN • ORLANDO, FLORIDA

total depth of 5010 feet the hole was plugged back and directionally redrilled to 4020 feet.

Tehama County Gas Test

Peter W. Hummel and Edward D. Neuhoff, Operators, are preparing to drill a wildcat gas test six miles northwest of the town of Red Bluff. Located on the northwest quarter of Section 7-27n-4w, the well will be the third test in the area by the operators.

Gulf Outpost Gas Test

Gulf Oil Corp. of Calif. is grading roads and preparing rig site for C. B. Stoddard No. 2 to be drilled on the northwest quarter of Section 10-14n-1w in Colusa County. The location is ½ mile east of Stoddard No. 1, which flowed 50,000 mcf of gas on an open flow potential test from the interval 7692-7662 feet.

Amerada Outpost

Amerada Petroleum Corp. is drilling below 4000 feet on William Gwerder No. 1 located on the southeast quarter of Section 29-5n-4e in Sacramento County. The test is approximately ¾ mile southeast of its Garin Gas Unit No. 1, the discovery well of the Grand Island Gas Field.

Stanislaus County Test Abandoned

Great Basins Petroleum Co. drilled to a total depth of 7129 feet on Wagner No. 35-26 and after running logs plugged and abandoned the well. The test was located on the southwest quarter of Section 26-3s-8e, three miles west of the town of Modesto and ten miles east of the Vernalis Gas Field.

Corning Area Gas Test

W. W. Holmes, Operator, has awarded a contract to Newton Drilling Co. to drill Gallatin No. 1-26 on the northeast quarter of Section 26-25n-3w in Tehama County. The location is two miles north of the Corning Gas Field and will be a 6000-foot F Zone test.

COASTAL AREA

Monterey County Wildcat

W. W. Holmes, Operator, is moving in rotary to drill Kent No. 2-4 located on the northeast quarter of Section 4-21s-8e in the King City area. The test will be drilled to about 2200 feet and is 1500 feet southeast from production.

Sonoma County Gas Test

Drilling and Production Company is preparing drill site for Petaluma Community No. 5-6 to be drilled on Lot No. 259 in Section 30-5n-6w.

Garner Well Runs Casing

Jupiter Oil Company, Ltd., and Lyle A. Garner are preparing to run casing on Rains No. 1 to test two zones logged in the wildcat test. Drilled to a total depth of 1831 feet, the well was logged, indicating an upper sand from 960-972 feet and a lower zone from 1480-1831 feet. 4½" casing with perforations from 1480-1831 feet will be run to 1831 feet with the upper sand blanked off. After testing the lower sand, the casing will be gun perforated for a test of the upper showings. The test is located in the Pine Mountain area of Ventura County on the southeast quarter of Section 12-6n-24w about 20 miles north of the Padre Canyon Field.

Offshore Gas Completion

Phillips Petroleum Company completed and shut in its Phillips Petroleum-Pauley et al-State 2208 No. 8 as a gas well. Total depth of the completion is 9915 feet, with 5½" casing cemented at 9890 feet. The well is located offshore from Naples in Santa Barbara County on projected Section 2-4n-30w. Equipment is being moved in to drill State 2205 No. 9.

Cojo Offshore

Phillips Petroleum Co. is drilling below 2500 feet on State 2207 No. 14. The well is located on projected Section 13-4n-34w offshore from Cojo in Santa Barbara County.

Tepusquet Canyon Test

C. W. Colgrove drilled to 1780 feet on Fleisher No. 855-7 and is testing shut-off on the 8⅝" casing cemented at 1720 feet. The test is located on the southeast quarter of Section 27-10n-32w in Santa Barbara County.

Texaco Inc. High Bidder

The State Lands Commission received bids from three companies for Parcel 2, W.O. 3810, located offshore east of Point Conception, Santa Barbara County, containing 3840 acres. The bids were: Texaco Inc., $9,550,000; Richfield Oil Corp., $1,600,015; and Pauley Petroleum et al, $851,600.

OTHER AREAS

Alaska

Pan American Petroleum Corp., Operator, is moving in equipment on Napatuk Creek No. 1, the first wildcat in the Bethel-Kushkowin Basin, located in the northeast quarter of Section 4-6n-78w, S.B.M. 465,280 acres are involved. Pan American has 26.33% interest, Bristol Bay and Empire State 26.33% jointly and Sunray Mid-Continent Oil Co. has 21%. Others are Permo Gas & Oil Co., Inc., Home Oil Co. of Canada, Baysel Oil & Gas Co., Southland Royalty Co., Seacrest Oil Co., Devon-Palmer Oils, Inc., Carolina Oil Co., and Madison Oils, Inc.

Standard Oil Company and Richfield Oil Corp. completed Soldotna Creek Unit No. 32-8 flowing 750 b/d of 36.3 gravity oil with a cut of 0.3 per cent from the perforated interval 10,502-10,670 feet. Located on the northeast quarter of Section 8-7n-9w, the completion was drilled to a total depth of 10,828 feet and cemented 6⅝" casing on bottom.

Richfield Oil Corp. drilled to a total depth of 12,135 feet on Kaliakh River Unit No. 2 and after plugging the well have suspended work and moved out rotary. Location of the test is in Southeastern Alaska on the northwest quarter of Section 28-20s-14e.

Arizona

Approximately ten miles southwest of the town of Ashfork, Sierra Drilling Co. of Phoenix, Arizona, is preparing to drill Campbell No. 2, a 1400-foot test in the northwest quarter of Section 23-20n-3w in Yavapai County.

Montana

Murphy Corp. completed Sletwold No. 2, a north offset to the discovery well of the Tule Creek Field, pump-

ing 150 b/d oil and 350 b/d water from the Nisku perforations 7684-7788 feet. Wells to the southwest and to the east of the discovery well have been abandoned. Located on the northeast quarter of Section 18-30n-48e in Roosevelt County, the completion was drilled to a total depth of 7770 feet and cemented 5½" casing at 7775 feet.

Two Sheridan County Wildcat tests have been staked by I. J. Wilhite, one in the Brush Lake area and the second in the Clear Lake area. Both will test the Charles of the Madison. Erickson No. 1 will be drilled on the southwest quarter of Section 24-33n-58e and Haaven No. 1 is located on the northeast quarter of Section 26-34n-58e. Erickson No. 1 is six miles northeast of production at the Dwyer Field and will test the Mission Canyon at 7600 feet. Haaven No. 1 is ten miles northeast of Dwyer and is also a Mission Canyon test.

Placid Oil Company completed Laugh No. 1 as a new field discovery flowing 600 b/d of 45 gravity clean oil through a 12/64" bean. Flow is from the Nisku (Devonian) perforations 7624-7646 feet. Located on the northwest quarter of Section 13-30n-47e in Roosevelt County, the discovery was drilled to a total depth of 7730 feet and cemented 5½" casing at 7729 feet.

Continental Oil Company is preparing location for Central Montana outpost test, Roberts No. 1, located on the northwest quarter of Section 2-10n-32e in Rosebud County. The well is an offset to production in the Sumatra Field.

Shell Oil Co. and Northern Pacific Railroad Co. recovered sufficient oil on a drill stem test to warrant the running of a string of casing on Well No. M-12-15 located on the northwest quarter of Section 15-9n-58e in Fallon County. 105 feet of oil and 1200 feet of mud and watery oil were recovered on a test of the Mission Canyon interval 7273-7308 feet. The test is on the Cedar Creek Anticline two miles south of the Cabin Creek Field and has a total depth of 8256 feet with the top of the Devonian logged at 8210 feet.

New Mexico

El Paso Natural Gas Company, according to reports, will soon start to prepare location and build roads for a deep test to be drilled in Rio Arriba County. Located on the southeast quarter of Section 7-29n-5w in the eastern portion of the San Juan Basin, the well will be a 16,000-foot Cambrian test. If drilled to the proposed depth of 16,000 feet, it will be the deepest well drilled in the San Juan Basin and also the first test to go beyond the Cretaceous.

On a farm-out from the Kern County Land Company, Royal Development Company has staked locations for six shallow wells to test the Mancos, south of the Shiprock Field in San Juan County. The tests will be drilled to about 200 feet. Wells No. 17-J-2 and 17-L-1 will be drilled in Section 17, No, 19-B-4 will be drilled in Section 19, No. 20-L-2 in Section 20, 21-D-2 in Section 21 and 28-D-2 in Section 28, all in 29n-18w.

Val R. Reese and Associates have staked locations for three Rio Arriba County tests, all in the Escrito area. Connie No. 4-28 is located on the northwest quarter of Section 28-24n-7w and Connie No. 5-21 on the northeast quarter of Section 21-24n-7w. Both wells will be drilled to approximately 6000 feet. A location has been staked for Compos No. 1-10, three miles south of Escrito on the southeast quarter of Section 10-23s-7w.

Aztec Oil & Gas Co. completed two San Juan County extension tests at two separate fields. Northeast of production at the Totah Field, Haygood-G No. 17, located on the northwest quarter of Section 29-29n-13w, flowed 350 b/d of clean oil through a 20/64" bean from the Gallup perforations 5531-5543 feet. Total depth is 5598 feet with top of the Gallup at 5160 feet. On the northeast quarter of Section 22-28n-13w, Robinson-G No. 8 flowed 305 b/d oil from the Gallup perforations 5758-5780 feet through a 20/64" bean. A south extension of the Cha Cha Field, the well was drilled to 5865 feet and logged top of the Gallup at 5400 feet.

Utah

Texaco Inc.'s Temple Springs Unit wildcat test, Unit No. 2, drilled to a total depth of 7010 feet and abandoned the lower part of the hole. The well was plugged back to 3870 feet and is running a series of tests above the plug through perforations

B&B DOES MORE THINGS TO PIPE *than Anybody*

- Pipe Threading, Testing, Straightening, Cleaning, Inspection
- A P I Couplings
- Custom Built Oil Well Liners
- Vertical Mill Cut Slotting
- Gravel Prepacked Liners
- Security Flush Joint Threads

SPECIAL EQUIPMENT FOR CLEANING DIRTY TUBING AND CASING UTILIZES HIGH PRESSURE WATER AND ELIMINATES HAND PICKING OF SLOTS.

B&B PIPE AND TOOL COMPANY
3035 Walnut Avenue • Long Beach 7, California
Phones: GArfield 4-0704 — NEvada 6-1715

in the 4½" casing cemented at 3898 feet. The wildcat is located on the southwest quarter of Section 22-25s-14e in Emery County.

Belco Corp. is drilling below 2000 feet on Great Yellowstone No. 1, its Uintah County wildcat test located on the southeast quarter of Section 29-11s-20e. The well will test the Mesaverde at about 8500 feet.

Sinclair Oil & Gas Company's Navajo No. 5-1 located on the northwest quarter of Section 18-43s-25e in San Juan County, on a test of the Ismay perforations 5308-5323 feet, flowed at a rate of 1030 b/d oil through a ¾" bean. The well is still being tested. Total depth of the well is 5423 feet in Desert Creek and 5½" casing is cemented at 5420 feet. Top of the Lower Ismay was logged at 5284 feet with 17 feet of producing zone logged.

B. W. Hancock has graded location and is waiting on drilling contractor to move in on Hay Canyon No. 1, located on the southwest quarter of Section 31-17s-24e in Grand County. The wildcat is located in the Westwater area and will test the Morrison at 4600 feet.

Davis Oil Co. and Tiger Drilling Co. have staked location for Navajo-G No. 1, a San Juan County wildcat test on the northeast quarter of Section 27-43s-24e. The drill site is 2½ miles southwest of the Ismay Zone production at Anido Creek and is scheduled to test the Molas at about 6400 feet.

Atlantic Refining Co. is preparing to start a second test on the Comb Wash Unit northwest of the Greater Aneth area. Unit No. 2, located on the southwest quarter of Section 20-39s-20e, will test the Paradox at approximately 2500 feet. Nearest production to the wildcat location is at Bluff Bench, ten miles to the southeast.

Miracle-Wooster and The Sun Oil Company's Uintah County wildcat test, Government No. 14-1, tested at a 2500 mcf per day rate from the Mesaverde perforations 7725-7745 feet and is continuing to test. Top of the Mesaverde was logged at 6400 feet. Located on the northeast quarter of Section 14-11s-21e, the well has a total depth of 8442 with 7" casing cemented at 6063 feet. A 4½" liner is cemented at 8422 feet.

A slight show of heavy oil and an estimated flow of 10 mcf of gas per day was recovered from the Ouray perforations 8116-8124 feet on Pure Oil Company's Northwest Lisbon-C No. 3 located on the southeast quarter of Section 3-30s-24e in San Juan County. Top of the Mississippian was logged at 7572 feet, top of the Ouray at 8031 feet and top of the McCracken at 8296 feet. A swab test of the McCracken recovered 90 per cent water. Located ¼ mile northeast of the area discovery well, the test has a total depth of 8425 feet.

Wyoming

Humble Oil & Refining Co. has staked location for Poison Creek Unit No. 1 on the northeast quarter of Section 32-37n-93w in Fremont County. Located on the Poison Creek Unit, the well will test the Lower Frontier Union at about 9000 feet.

Cities Service Petroleum Company is grading location for Government No. F-1 to be drilled on the southeast quarter of Section 5-47n-93w in Washakie County. The wildcat will test the Cody at about 7000 feet.

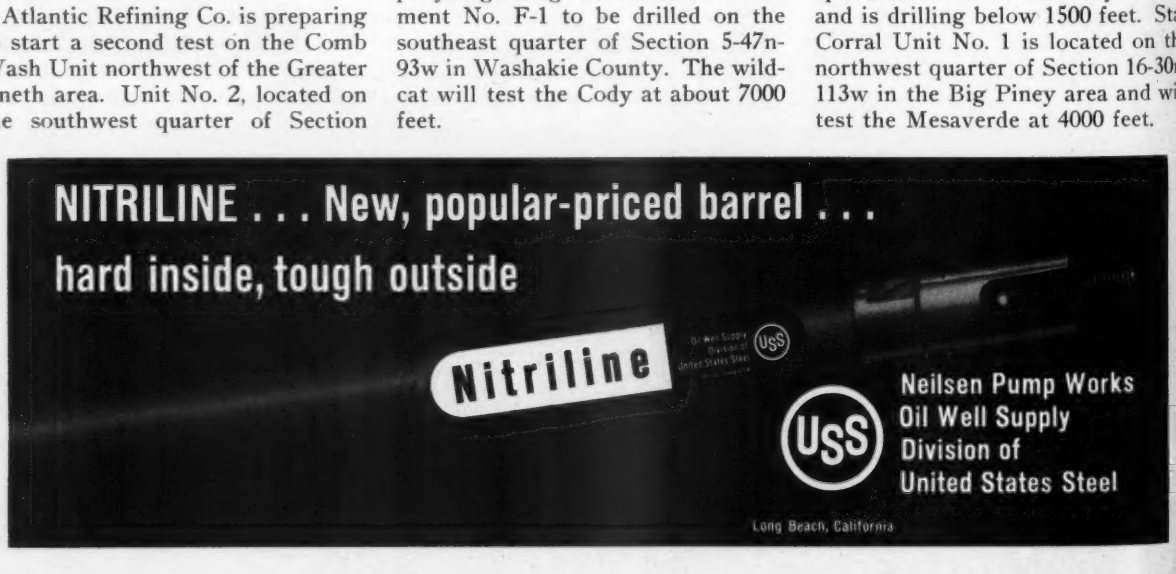
The Superior Oil Company is drilling below 7000 feet on Hugus Draw Unit No. 1 after a drill stem test of the interval 6464-6498 feet flowed a small amount of gas. 19 feet of oil-stained sand was cored in the interval tested. The test, the first on the 3480-acre block, is located on the northeast quarter of Section 29-20n-87w in Carbon County, and will go to the Tensleep at about 9500 feet.

At the south end of the Prairie Creek Field, Mobil Oil drilled to a total depth of 5370 feet on Government No. F-21-7 and is running casing to test the Newcastle. The well is located on the northwest quarter of Section 7-53n-68w in Crook County, approximately ½ mile southeast of Continental Oil Company's producer, Lewark No. 6.

Texaco Inc. is grading location for Stevenson No. 8 on the southwest quarter of Section 29-50n-68w in Crook County. The rig site is north of the Donkey Creek area and will test the Dakota at about 6000 feet.

Shell Oil Company completed Norman 41-14 flowing 700 b/d of clean oil from the Minnelusa perforations 8278-8295 feet. Top of the Minnelusa was logged at 8262 feet. Located on the northeast quarter of Section 14-48n-69w in Campbell County, the completion was drilled to a total depth of 8295 feet and plugged back inside the 5½" casing to 8295 feet.

Belco Petroleum Company has spudded its Sublette County wildcat and is drilling below 1500 feet. Star Corral Unit No. 1 is located on the northwest quarter of Section 16-30n-113w in the Big Piney area and will test the Mesaverde at 4000 feet.



Dr. W. L. Faith | Dr. R. E. Untereiner | Dr. C. H. Hine | H. G. Vesper | Dr. M. J. Thomas

Participants in press seminar held by Western Oil & Gas Association on Rule 62. Following this seminar Western Oil & Gas Association was successful in getting the Board of Supervisors of Los Angeles County to hold a duly advertised hearing for that work on March 16, 1961.

Rules Committee Sends Fuel Study to Select House Group; Author Disclaims End-Use Aim

A surprise maneuver apparently all but ended a two-year controversy over whether Congress should make a study which may result in formulation of a "national fuels policy." The action came when the House Rules Committee cleared for floor action an eleventh-hour compromise version of a resolution, long advocated by spokesmen for the coal industry, which authorizes the study, reports Frank Rogers, WOGA's Washington, D.C., representative.

Major change in the resolution, sponsored by Rep. Wayne Aspinall, Colorado, gives the investigative job to a select committee of the House rather than to a joint Senate-House committee as originally proposed. The 15 members of the group would be appointed by speaker Sam Rayburn, who reportedly gave at least tacit approval to the new resolution.

A Senate concurrent resolution to turn the study over to a joint committee probably will not be acted upon if the House authorizes the study by its own group, Rep. Aspinall indicated in urging the Rules Committee's approval.

Rep. Aspinall is opposed to "end-use controls" of fuels during peacetime. The petroleum industry, including WOGA, opposed creation of a joint committee to make the study because the language of the resolution creating such a group called for formulation of a "national fuels policy." Coal spokesmen have frequently stated that any such policy should include government restrictions on the use of fuel oil and natural gas for industrial purposes.

The language of the new Aspinall resolution retains one reference to a "national fuels policy."

The new committee is directed to consider the "proved and predicted availabilities" of all forms of fuel and energy resources, the "interests of the consuming public," and the need, if any, for legislation to implement its recommendations, including amendments to the Federal Power Act, the Natural Gas Act and the Atomic Energy Act.

The study must be completed prior to the end of the present Congress, and the committee is authorized to conduct public hearings "in appropriate parts of the nation."

The Rules Committee cleared the resolution by a 9-to-5 vote, with one member absent, after considering the joint committee approach for nearly two days.

Official Hearing on Smog Rule 62 Necessary In Los Angeles County

A duly advertised hearing on proposed amendments to smog Rule 62 is vital to the community economy, Felix Chappellet, vice president and general manager of Western Oil & Gas Association, said recently.

He said the action to amend the rule will be necessary to assure an adequate supply of fuel to meet all of Los Angeles demands for energy.

Chappellet's group presented evidence at a preliminary hearing March 2, but "it is only at a duly advertised hearing that the board of supervisors can take significant legal action."

Rule 62 now prohibits fuel oil burning for 6 months of the year. The oil industry's amendment would prohibit such burning only when sulfur dioxide levels reach ⅛ of the most restrictive state standards and when the Air Pollution Control District forecasts smoggy weather.

NEXT TIME CALL

CAVINS

YOU'LL BE GLAD YOU DID

- "MULTI-SURGE" JUNK SNATCHER
- AUTOMATIC HYDRAULIC SUCTION BAILER
- SAND PUMPS
- DUMP BOTTOM
- BRIDGING PLUG
- DEPTHOMETER
- AIR-POWERED TUBING SPIDER

Consult Composite Catalog or write for descriptive literature.

The Cavins Co.

2853 Cherry Ave., Long Beach 6, Calif.

Phone GArfield 4-8564

Taft: Main and Lincoln Sts., Phone ROger 5-5319
Santa Maria: Dominion Rd., W. Cat Canyon, WA. 5-8711
Ventura: 1641 N. Ventura Ave., Miller 3-6767
Bakersfield: 130 E. Norris Rd., EXport 9-3605

LAUGH

Louise's mother always insisted that her little girl take a bath twice a day and also play out in the sunshine at least three or four hours.

"Don't you realize," her daughter sobbed, "that I'm going to be washed out and faded before I'm 20?"

On a children's quiz show a boy about 7 was before the microphone.

"What is man's best friend?" began the master of ceremonies. "The word begins with 'd'."

"Dame," the youngster replied confidently.

A cat was seen running wildly down alleys, up fire escapes, down cellars and what not. A neighbor knew whose cat it was and reported it. "Your cat is running around like mad."

"Yes, I know," came the reply. "He's just been sterilized and he's rushing around canceling engagements!"

"Did you learn very much on your first day at school, Emily?"

Emily: "Not enough, I guess; I've got to go back tomorrow."

A chemical analysis of women:

Symbol: WO.

Accepted Atomic Weight: 120 pounds.

Physical Properties: Boils at nothing and freezes at any moment. Melts when properly treated. Very bitter if not well used.

Occurrence: Wherever man exists.

Chemical Properties: Possesses great affinity for gold, silver, platinum and precious stones. Violent reaction if left alone. Able to absorb great amounts of food matter. Turns green when placed beside a better looking specimen.

Uses: Highly ornamental and useful as a tonic in acceleration of low spirits, and an equalizer in the distribution of wealth. Is probably the most effective income-reducing agent known.

Caution: Highly explosive in inexperienced hands.

THIS

The motorist behind the car in which little June was riding was blowing the horn impatiently at every stop.

"Gee," June said, "I bet his mother's sorry she got him a horn for Christmas."

OFF!!

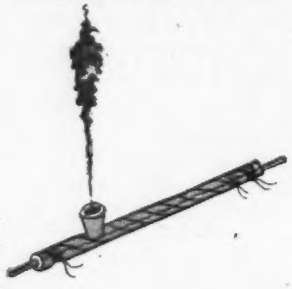
"Mamma, why can't I go to the races?" Jimmy asked.

"Because you're too young," his mother answered.

"But," the little boy protested, "Papa just said it would be a good day for 4-year-olds."

No Like 'Um Big Pipe!

Then Welex's TUBINGLESS Completion Services Are For You



Development of tubingless completions—where tubing becomes casing or standard pipe—made necessary many new completion techniques.

Welex's Tubingless Completion Services offer you by far the most complete selection, whether your well is a single or multiple completion.

One Welex tool—the Sidewinder* jet perforator, which you can run in 2⅜" casing and retrieve through 1-25/32" seating nipples—is an example of Welex's ability to meet the challenge of any type of well completion.

Welex's Radioactivity Orienting Service, used when several strings of tubing are set as casing, is another example of Welex solving a special tubingless completion problem.

Regardless of your needs, there's a Welex service to solve it. In tubingless completions these include:

- Sidewinder Jet Perforator
- Welex Link-Jet*
- Welex TR Jet*
- Radioactivity Orienting
- Correlation Gamma Surveys
- Gamma-Neutron Surveys
- Jet Tubing Cutter
- Flowmeter Surveys

No other company offers such a complete package. That's why Welex, with its years of experience, is your best choice every time.

*Trademark of Jet Research Center, Inc.

WELEX

A Division of Halliburton Company

General Offices: 1728 Old Spanish Trail, Houston, Texas